

FIG.1 FIG.13 FIG.21 FIG.24 FIG.26 FIG.27

100 MOBILE STATION APPARATUS

110 TRANSMITTING SECTION

111 PILOT SELECTING SECTION 111

5 112 MODULATION SECTION

TRANSMISSION DATA

113 FREQUENCY SELECTING SECTION

114 IFFT SECTION

115 GI ADDING SECTION

10 116 RF SECTION

120 RECEIVING SECTION

122 RF SECTION

123 GI REMOVING SECTION

124 FFT SECTION

15 125 SEPARATING/SELECTING SECTION

126 PROPAGATION PATH ESTIMATING SECTION

127 PROPAGATION PATH COMPENSATING SECTION

128 DEMODULATION SECTION

129 DECODING SECTION

20 130 ERROR DETECTING SECTION

RECEPTION DATA

131 PROPAGATION PATH DETERMINING SECTION

FIG.2A FIG.2B

25 RECEPTION LEVEL

SUBBAND

FREQUENCY

ALL BANDS

SELECT THIS BAND

FIG.3A FIG.3B

5 SUBCARRIER NUMBER

FREQUENCY

SUBBAND #1

SUBBAND #2

10 FIG.4

SUBCARRIER NUMBER

SUBBAND

FREQUENCY

15 FIG.5

113 FREQUENCY SELECTING SECTION

114 IFFT SECTION

FROM MODULATION SECTION 112

FROM PROPAGATION PATH DETERMINING SECTION 131

20

FIG.6

MOBILE STATION APPARATUS 100

BASE STATION APPARATUS 150

DATA

25 ST1020 PROPAGATION PATH DETERMINATION

ST1030 SUBBAND SELECTION

ST1050 FREQUENCY SCHEDULING (DETERMINATION OF SUBBAND)

## ST1070 RECEPTION PROCESSING

FIG.7 FIG.25 FIG.28

150 BASE STATION APPARATUS  
5 160 TRANSMITTING SECTION  
161-1 161-2 BUFFER  
DATA  
162-1 162-2 CODING SECTION  
163-1 163-2 MODULATION SECTION  
10 164 FREQUENCY SELECTING SECTION  
165 MULTIPLEXING SECTION  
166 IFFT SECTION  
167 GI ADDING SECTION  
168 RF SECTION  
15 170 RECEIVING SECTION  
172 RF SECTION  
173 GI REMOVING SECTION  
174 FFT SECTION  
175 USER SELECTING SECTION  
20 176-1 176-2 DETERMINING SECTION

FIG.8

FREQUENCY  
SUBCARRIER BLOCK  
25 TIME  
UPLINK  
DONLINK

FIG.9

174 FFT SECTION

175 USER SELECTING SECTION

176-1 176-2 DETERMINING SECTION

5 183-1 DETECTING SECTION

TO FREQUENCY SELECTING SECTION 164

FIG.10

163-1 163-2 MODULATION SECTION

10 164 FREQUENCY SELECTING SECTION

FROM USER SELECTING SECTION 175

165 MULTIPLEXING SECTION

MODULATED PILOT SIGNAL

15 FIG.11

SUBCARRIER NUMBER

SUBBAND

FREQUENCY

20 FIG.12

SUBCARRIER NUMBER

FIG.13

200 MOBILE STATION APPARATUS

25 210 TRANSMITTING SECTION

211 PILOT SELECTING SECTION

212 MODULATION SECTION

TRANSMISSION DATA

213 FREQUENCY SELECTING SECTION

220 RECEIVING SECTION

231 PROPAGATION PATH DETERMINING SECTION

5

FIG.14A FIG.14B

RECEPTION LEVEL

SUBBAND

ALL BAND

10 SELECT THIS BAND WITH A FIRST PRIORITY

SELECT THIS BAND WITH A SECOND PRIORITY

FIG.15

FIRST PRIORITY

15 SECOND PRIORITY

FIG.16

114 IFFT SECTION

213 FREQUENCY SELECTING SECTION

20 FROM MODULATION SECTION 212

FROM PROPAGATION PATH DETERMINING SECTION 231

FIG.17

174 FFT SECTION

25 175a USER SELECTING SECTION

176-1 176-2 DETERMINING SECTION

283-1 DETECTING SECTION

TO FREQUENCY SELECTING SECTION 164a

FIG.18

163-1 163-2 MODULATION SECTION

164a FREQUENCY SELECTING SECTION

5 165 MULTIPLEXING SECTION

MODULATED PILOT SIGNAL

255 ADJUSTING SECTION

FROM USER SELECTING SECTION 175a

10 FIG.19

START

ST2010 SB2 OF U1 COMPETES WITH OTHERS?

ST2020 SB2 IS ALREADY USED?

ST2030 ASSIGN SB1 TO U1 AND SB2 TO U2

15 ST2040 ASSIGN SB2 TO U1 AND SB1 TO U2

ST2050 ASSIGN SB1 TO U1 AND SB2 TO U2

END

FIG.20

20 SUBBAND NUMBER OF THE FIRST PRIORITY

SUBBAND NUMBER OF THE SECOND PRIORITY

SUBBAND NUMBER OF THE THIRD PRIORITY

PRIORITY INFORMATION OF USER #1

PRIORITY INFORMATION OF USER #2

25 PRIORITY INFORMATION OF USER #3

SELECTED SUBBAND NUMBER

UNAVAILABLE SUBBAND NUMBER DUE TO BEING SECECTED BY

ANOTHER USER

UNNECESSARY SUBBAND NUMBER SINCE THE SUBBAND WITH A HIGHER  
PRIORITY HAS BEEN SELECTED

5 FIG.21

300 MOBILE STATION APPARATUS  
301 MOVE DETERMINING SECTION  
302 DATA TYPE DETERMINING SECTION  
320 RECEIVING SECTION

10

FIG.22

START

ST3010 MEASURE A MOVING STATE OF A MOBILE STATION  
APPARATUS

15 ST3020 IN A STATIC STATE ?

ST3030 NORMAL OPERATION

ST3040 1 STOP PROPAGATION PATH DETERMINING SECTION  
2 FREQUENCY SELECTING SECTION HOLDS THE SWITCH  
STATE

20 ST3050 DETERMINES QoS

ST3060 SPEECH DATA AND THE LIKE ?

ST3070 STOP TRANSMISSION OF ACK/NACK

FIG.23

25 FREQUENCY

SUBBAND

USER

SUBCARRIER

TIME

UNIT OF FREQUENCY SCHEDULING UPDATE

FIG. 24

- 5    400    MOBILE STATION APPARATUS
  - 401    CONTROL SECTION
  - 410    TRANSMITTING SECTION
  - 411    OFDMA TRANSMITTING SECTION
  - 413    RF SECTION
- 10    420    RECEIVING SECTION
  - 421    RF SECTION
  - 423    OFDMA RECEIVING SECTION

FIG. 25

- 15    450    BASE STATION APPARATUS
  - 451    CONTROL SECTION
  - 460    TRANSMITTING SECTION
  - 461    OFDMA TRANSMITTING SECTION
  - 463    RF SECTION
- 20    470    RECEIVING SECTION
  - 471    RF SECTION
  - 473    OFDMA RECEIVING SECTION

FIG. 26

- 25    411    OFDMA TRANSMITTING SECTION
  - 414    CODING SECTION
- TRANSMISSION DATA

FIG.27

423 OFDMA RECEIVING SECTION  
RECEPTION DATA

5

FIG.28

461 OFDMA TRANSMITTING SECTION  
TRANSMISSION DATA

10 FIG.29

473 OFDMA RECEIVING SECTION

RECEPTION DATA

RECEPTION DATA

473-1 473-2 DECODING SECTION

15 474-1 474-2 DEMODULATION SECTION

## 100 MOBILE STATION APPARATUS

## 110 TRANSMITTING SECTION

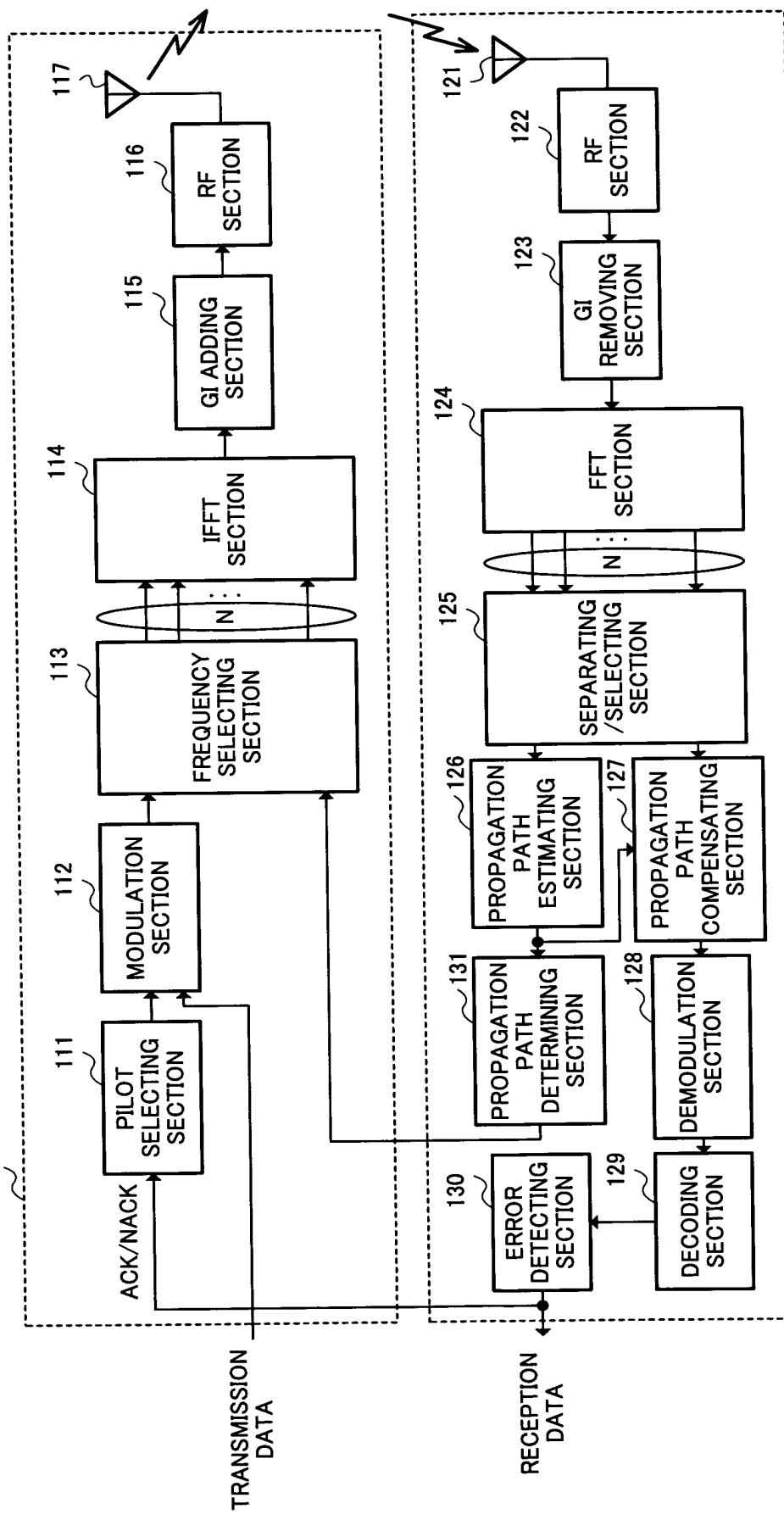
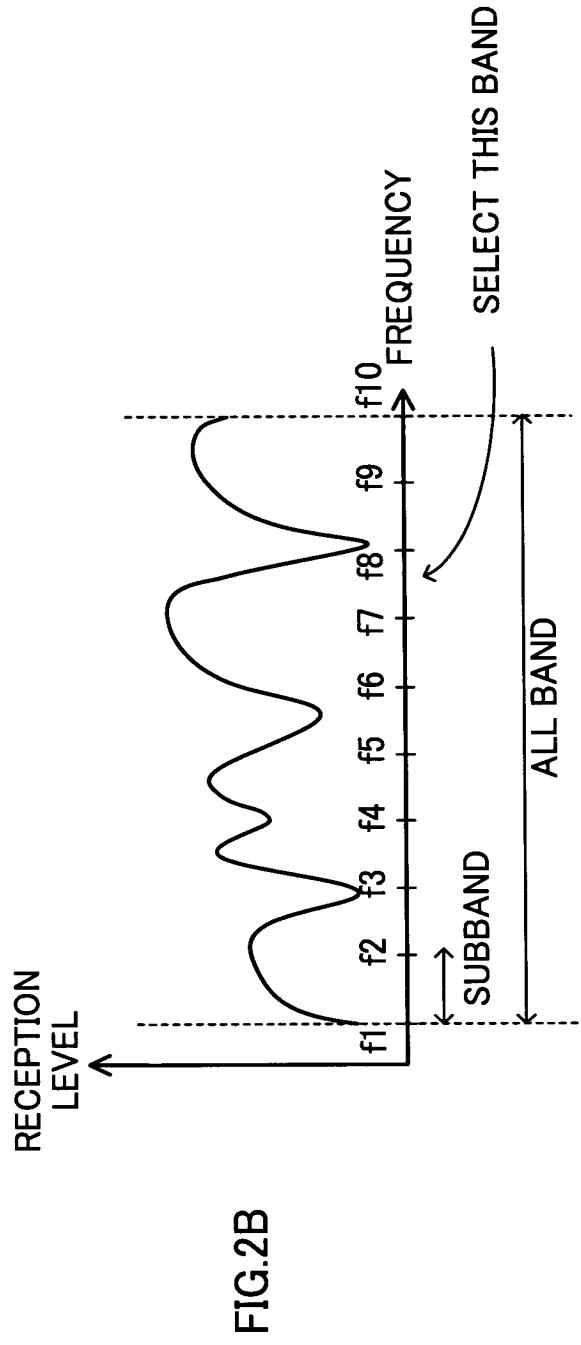
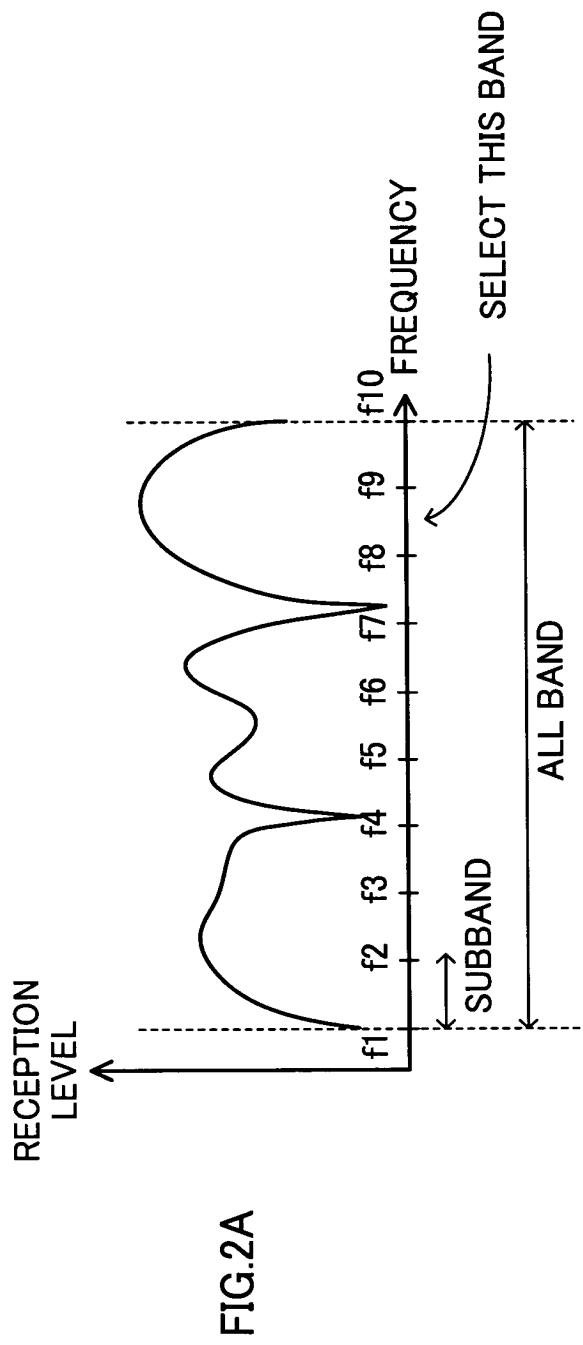
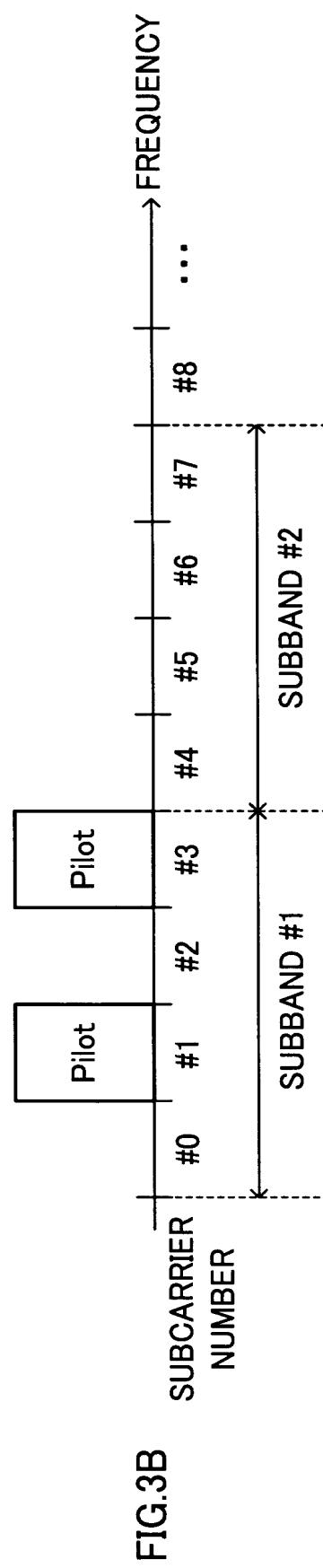
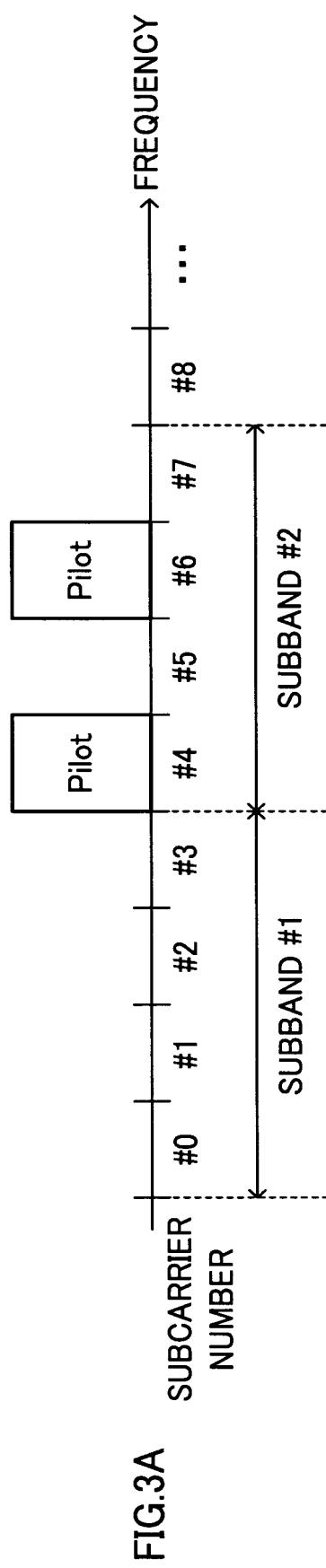


FIG.1





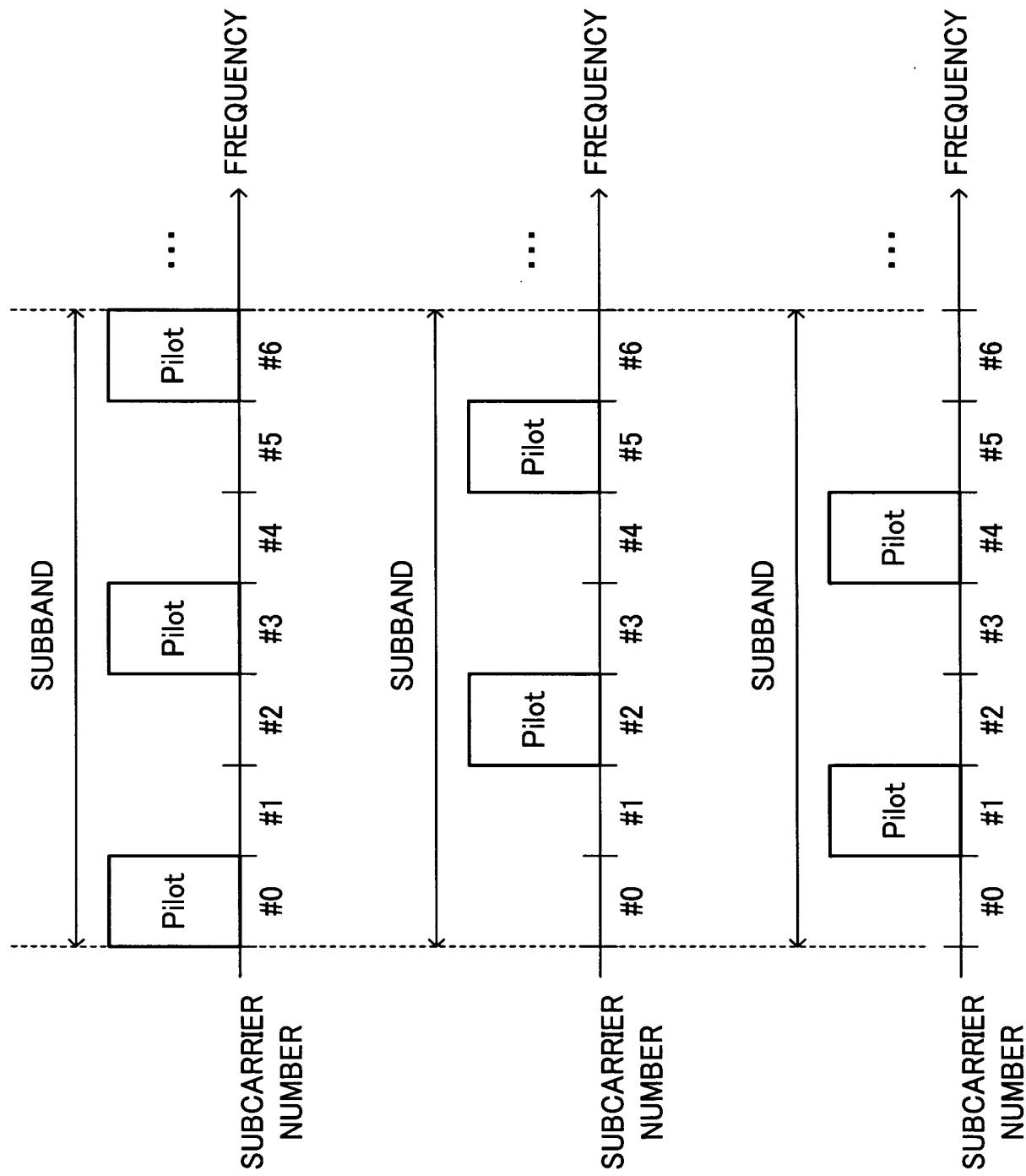
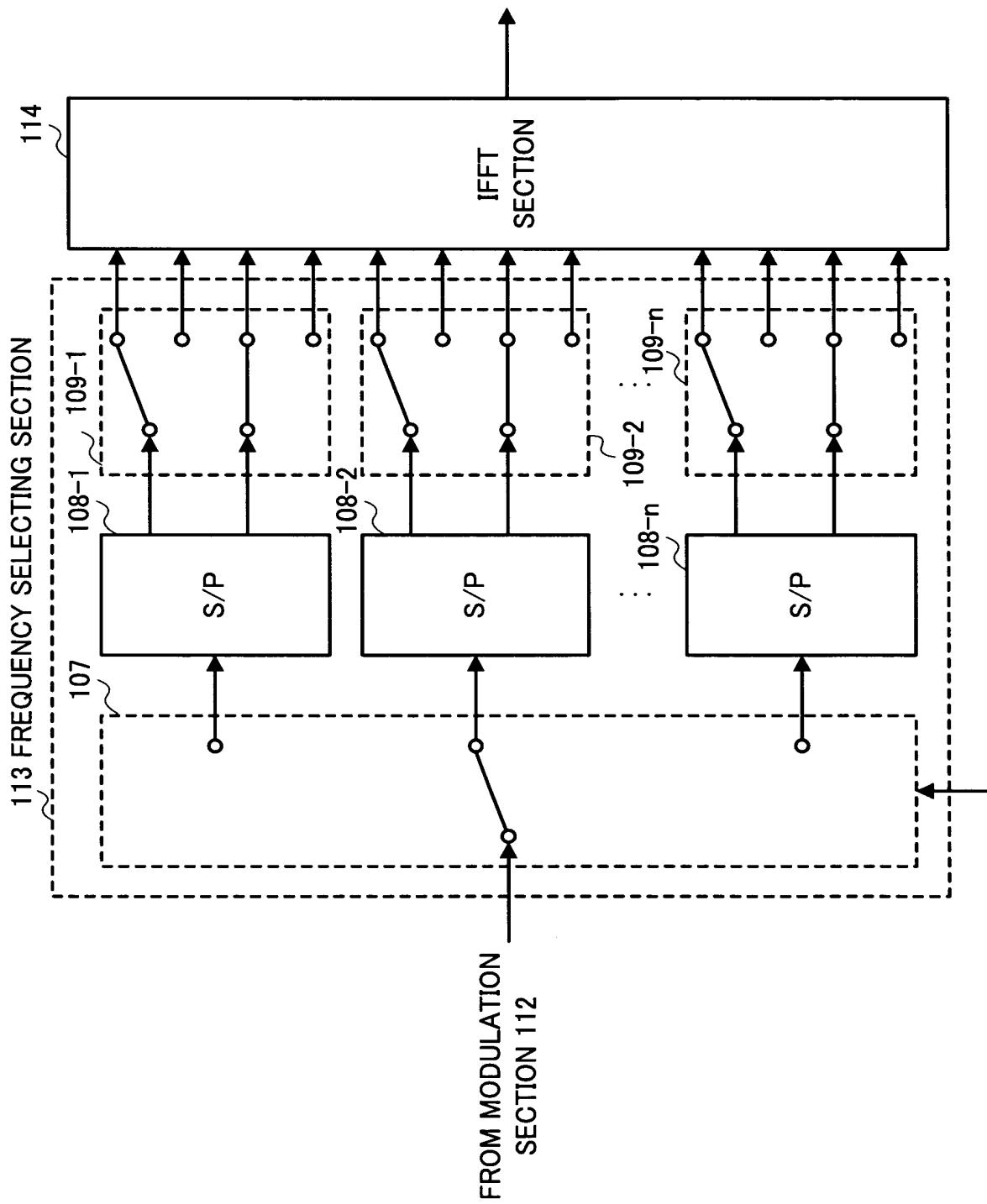


FIG.4



FROM PROPAGATION PATH  
DETERMINING SECTION 131

FIG.5

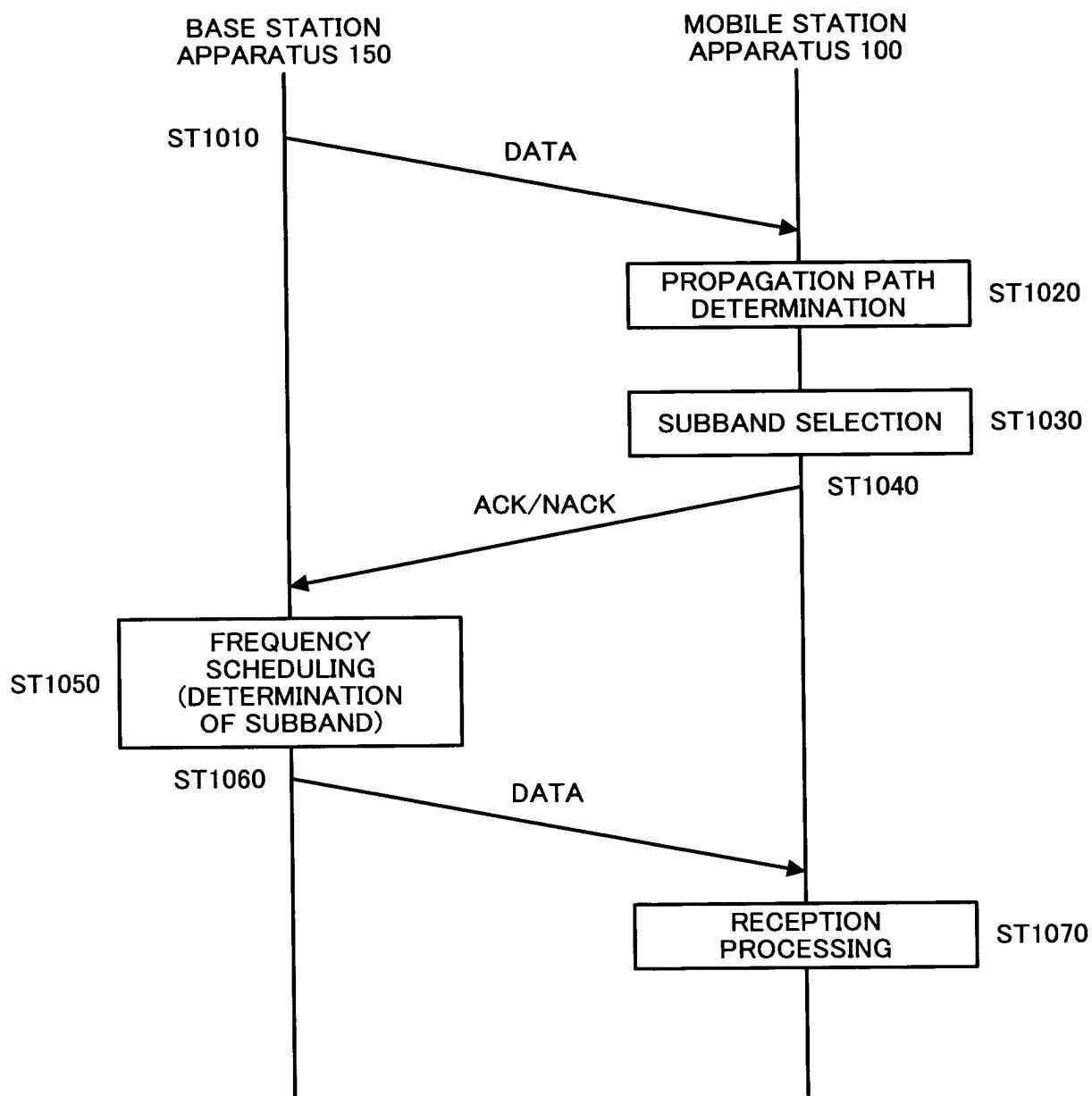


FIG.6

150 BASE STATION APPARATUS

## 160 TRANSMITTING SECTION

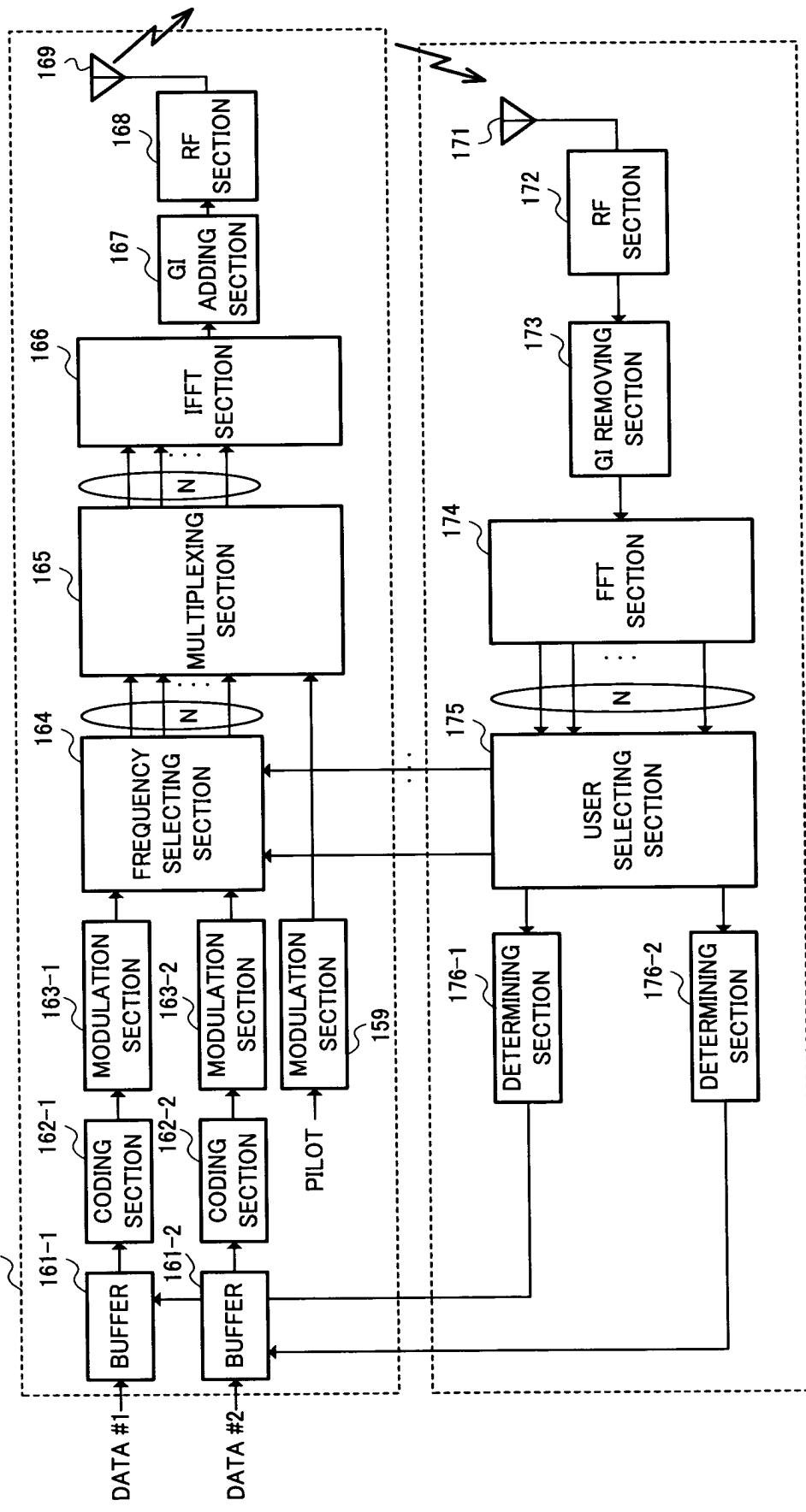


FIG.7

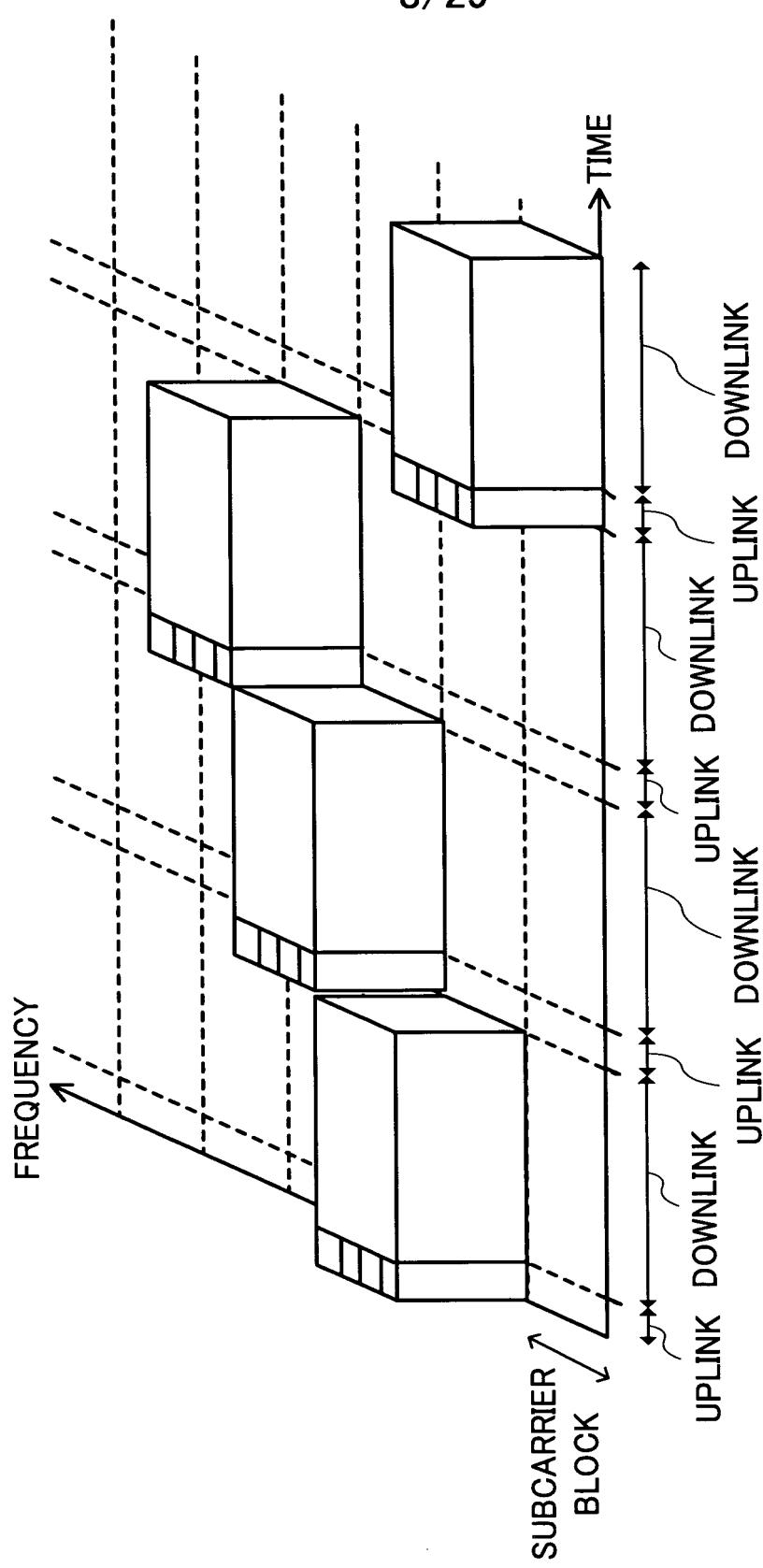


FIG.8

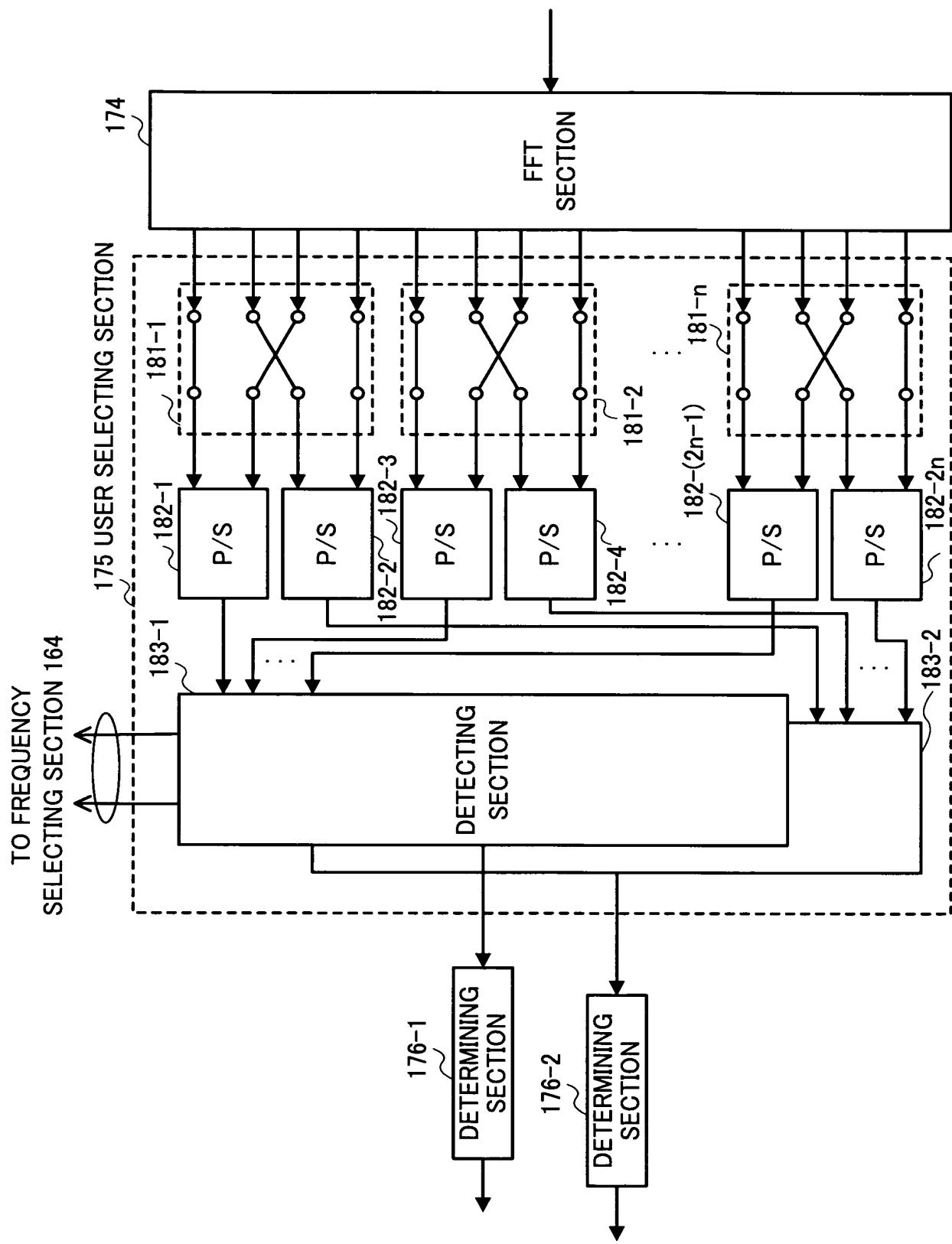


FIG.9

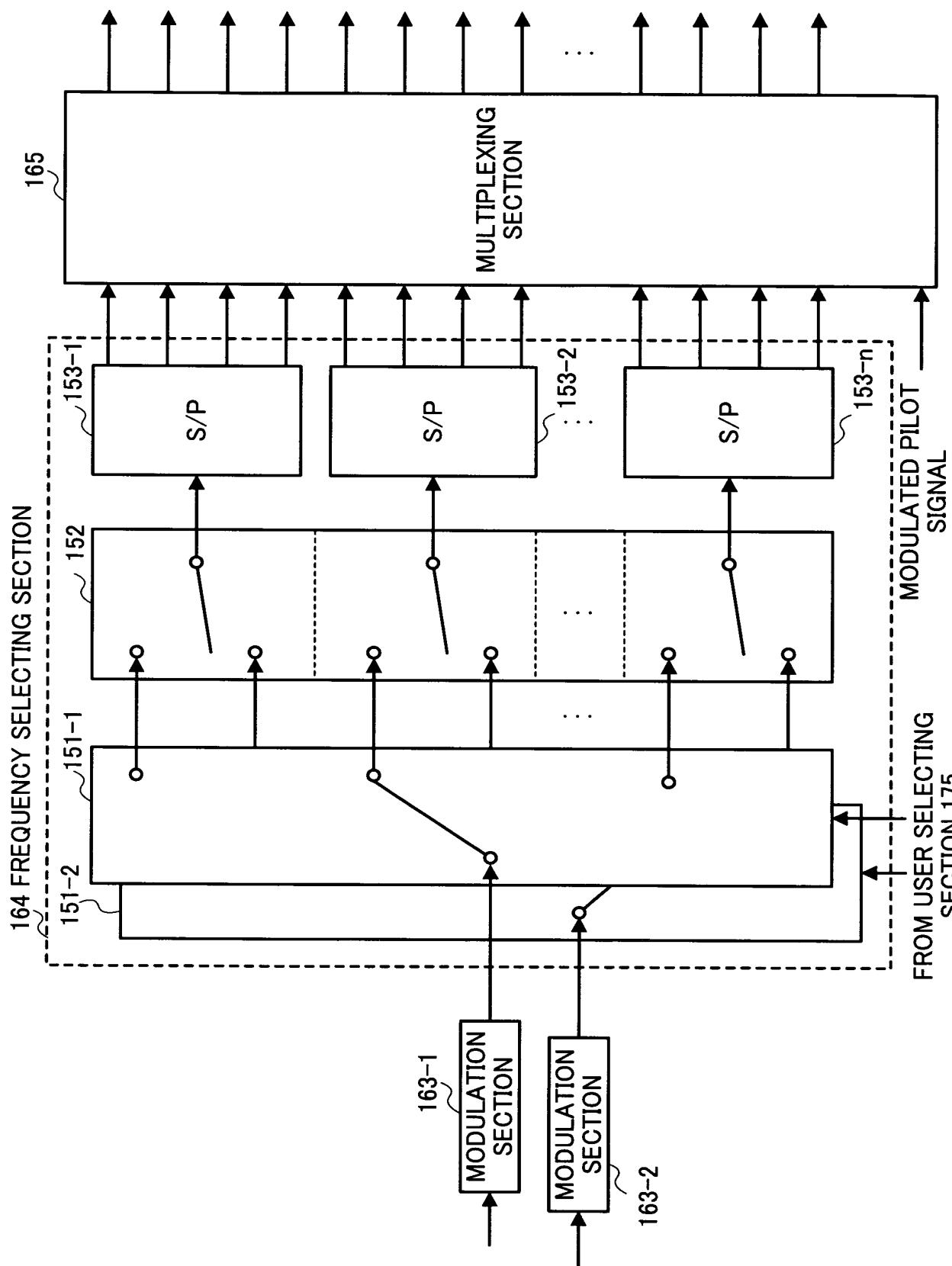


FIG.10

11/29

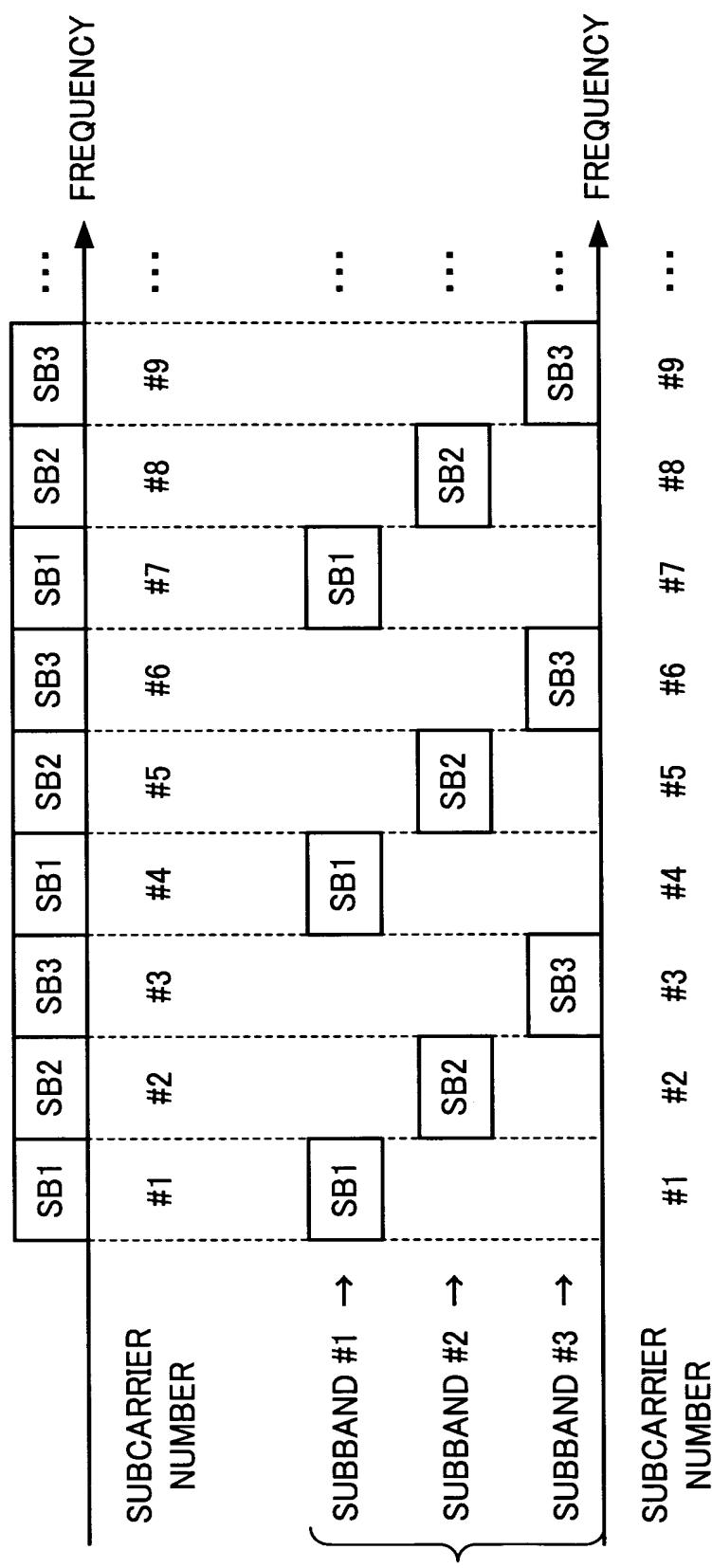


FIG.11

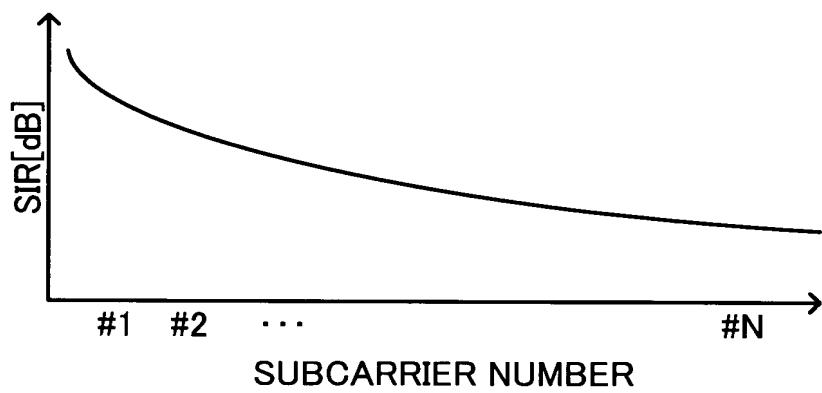


FIG.12

## 200 MOBILE STATION APPARATUS

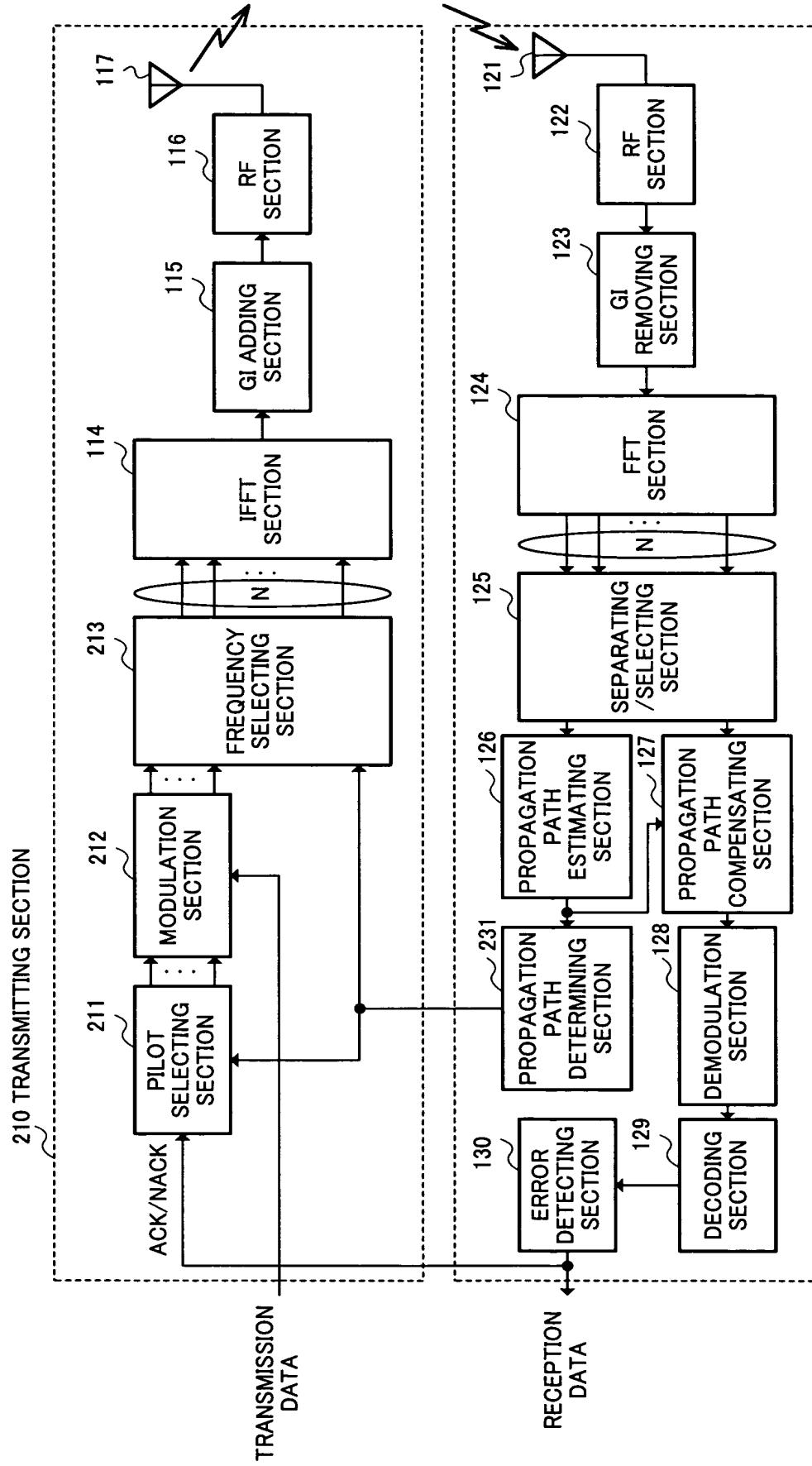
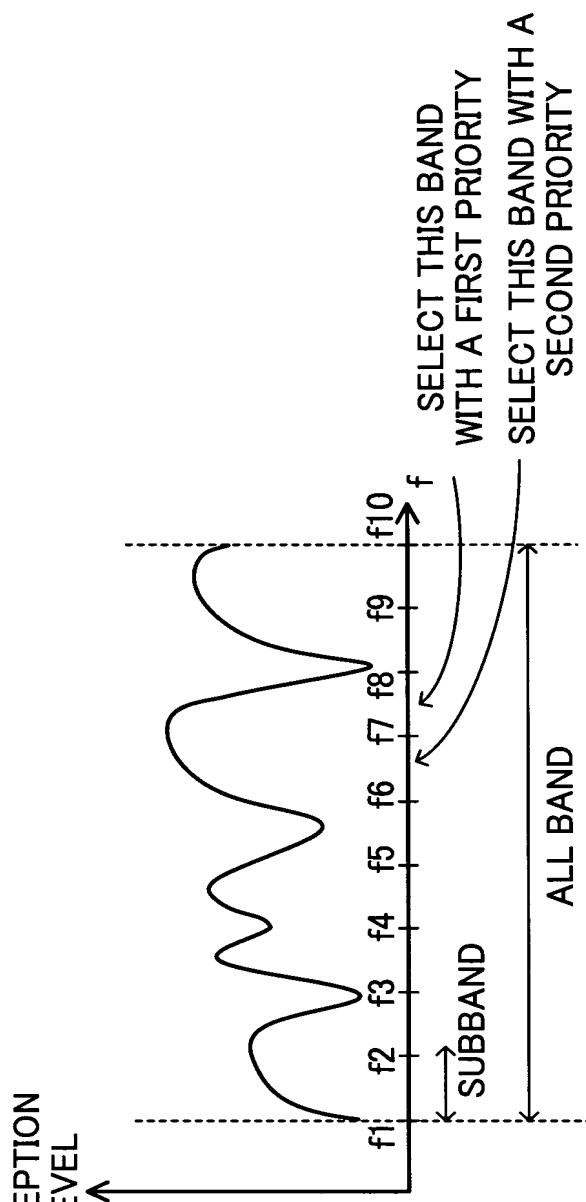
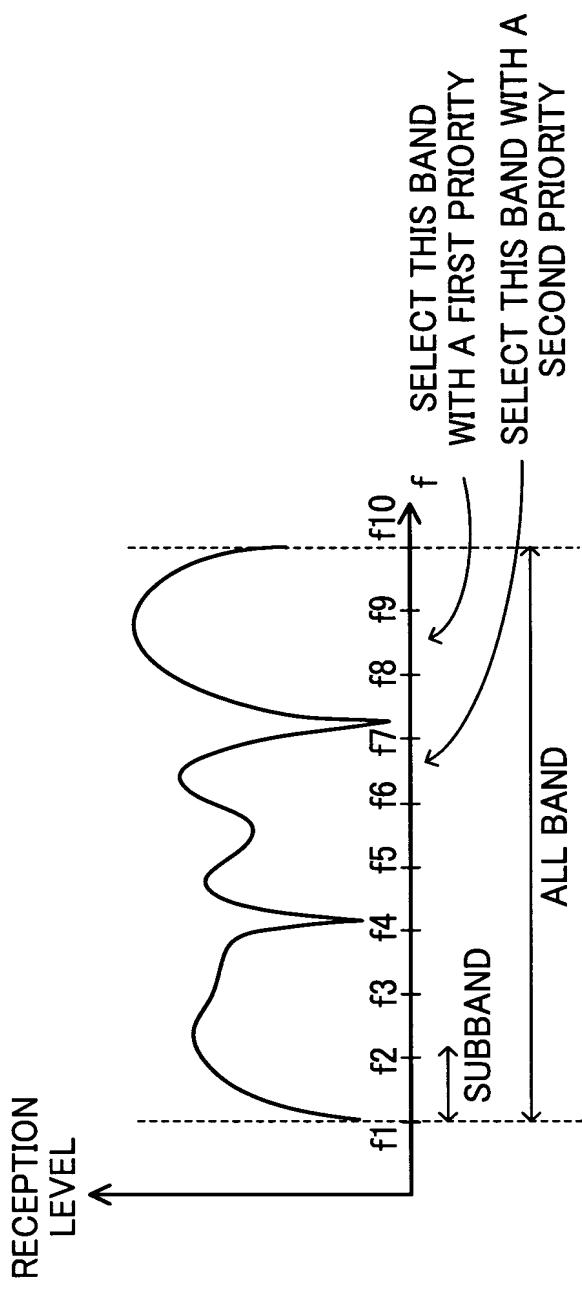
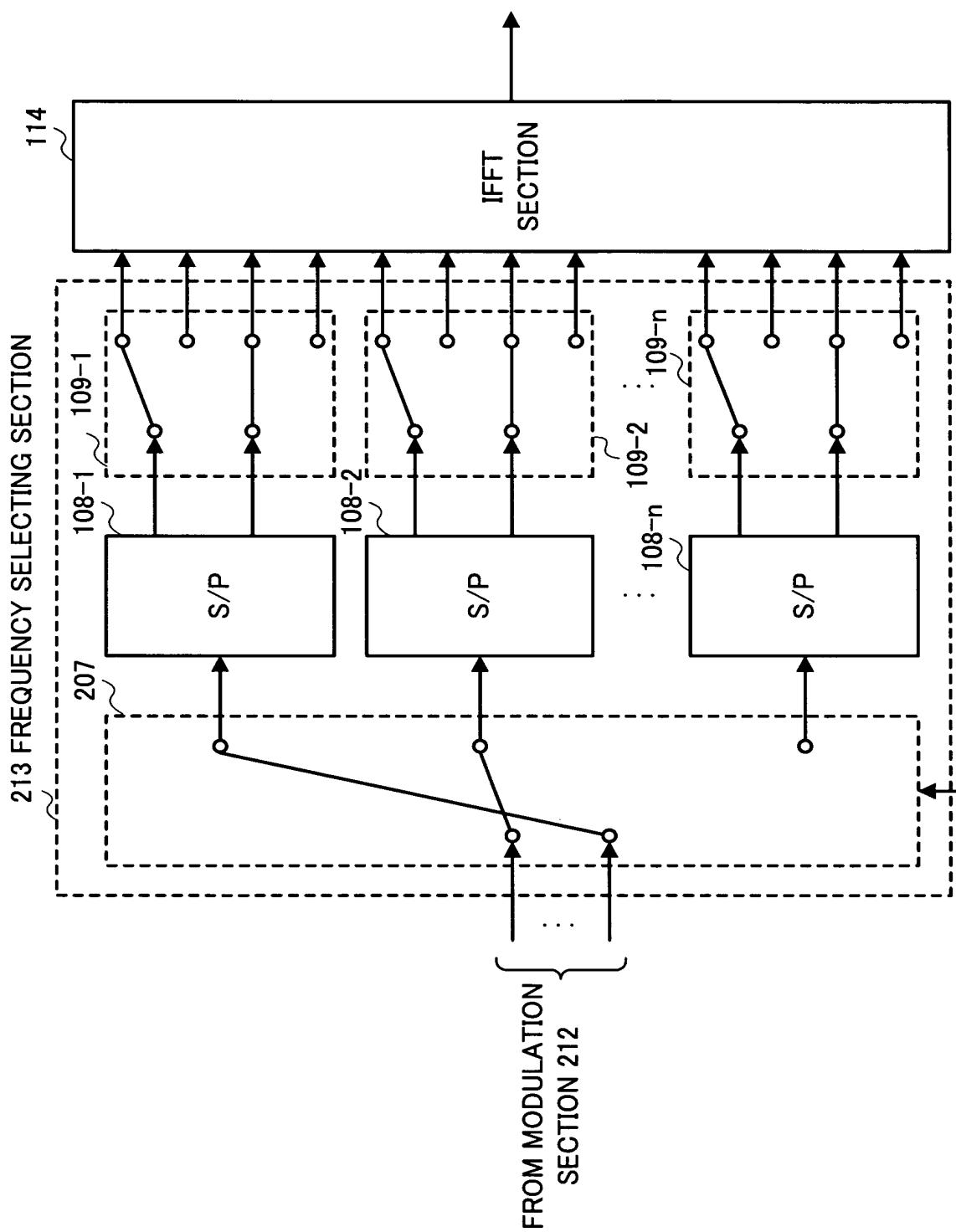


FIG.13



	FIRST PRIORITY	SECOND PRIORITY
ACK	1, 1	1, -1
NACK	-1, 1	-1, -1

FIG.15



FROM PROPAGATION PATH  
DETERMINING SECTION 231

FIG.16

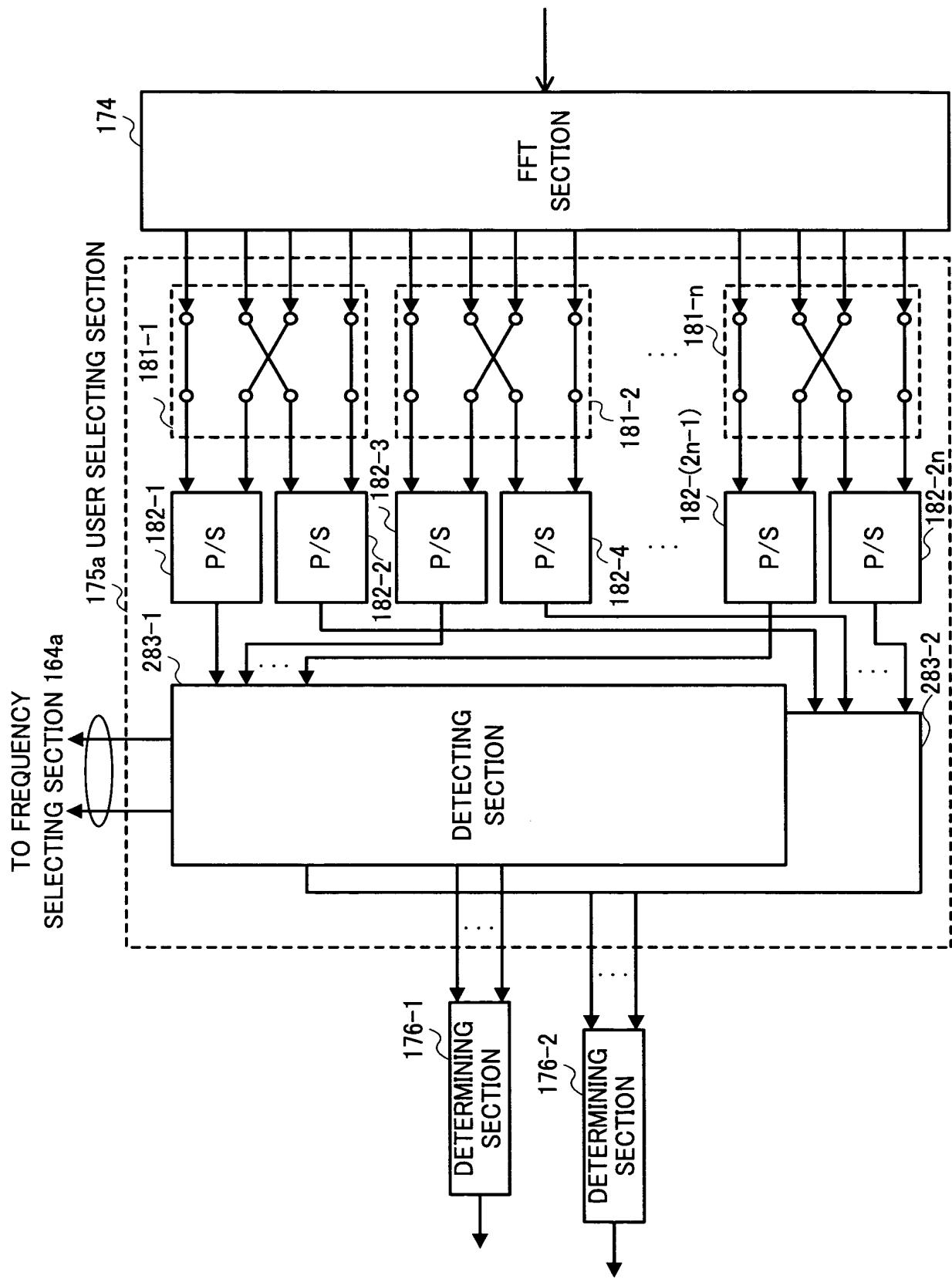


FIG.17

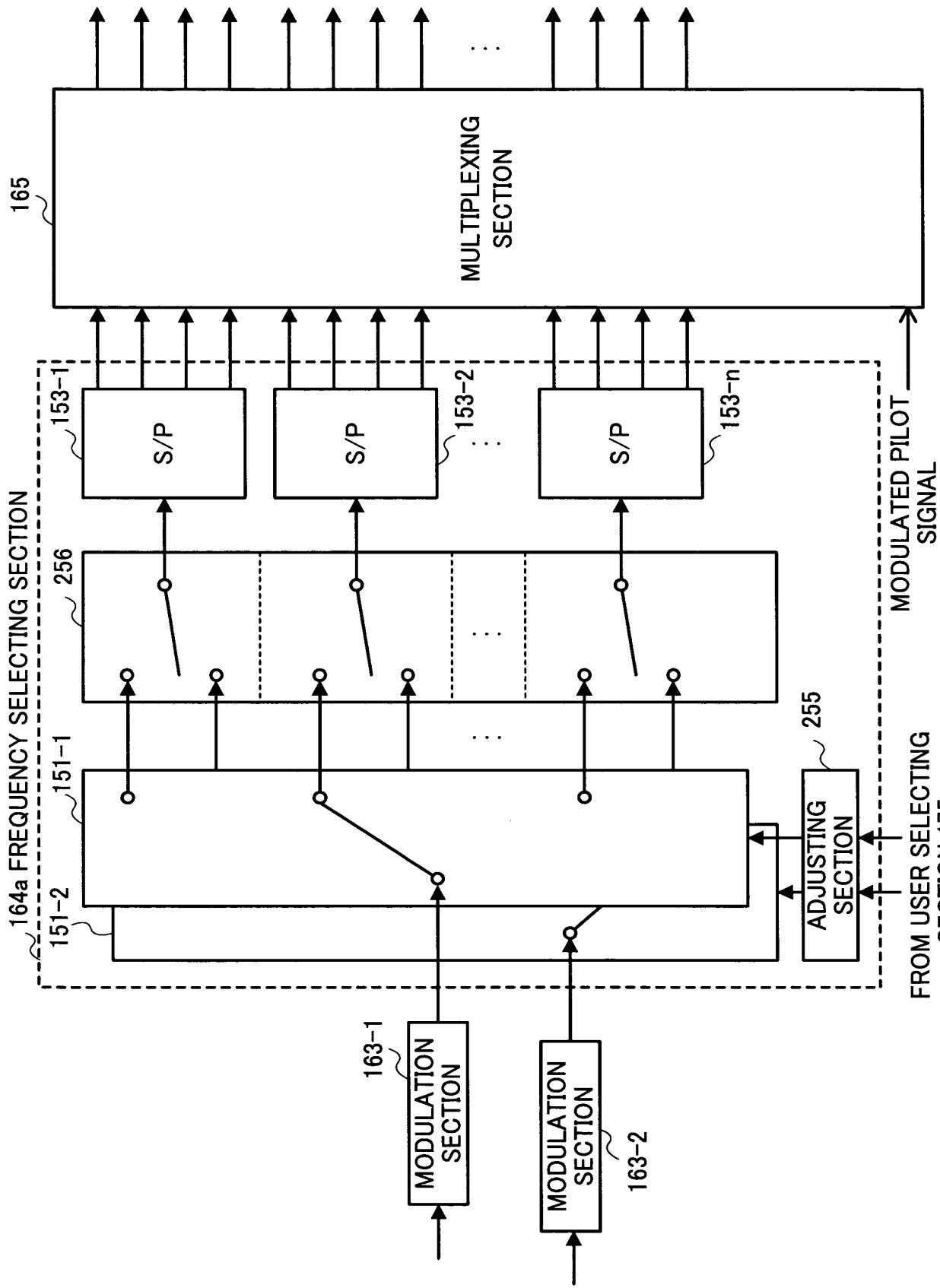


FIG. 18

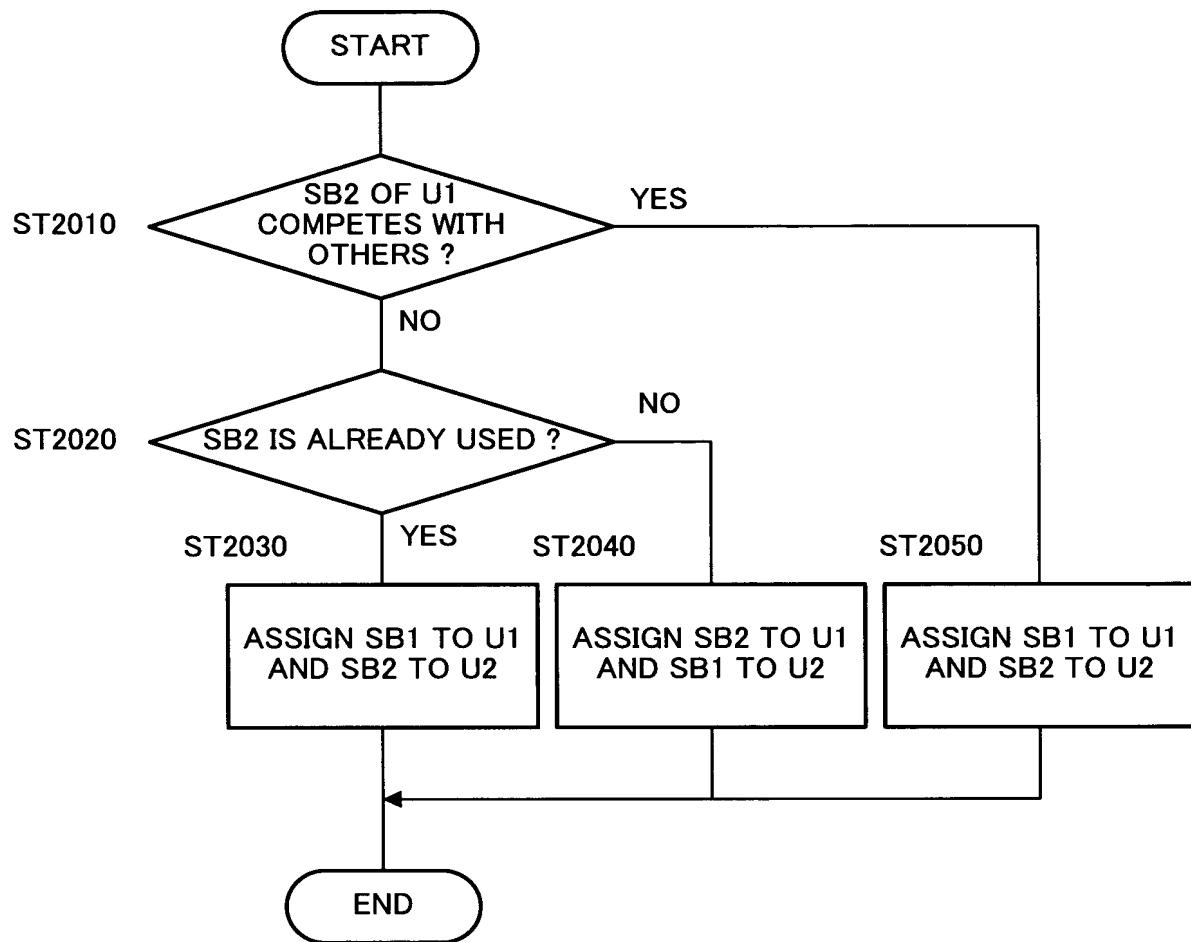


FIG.19

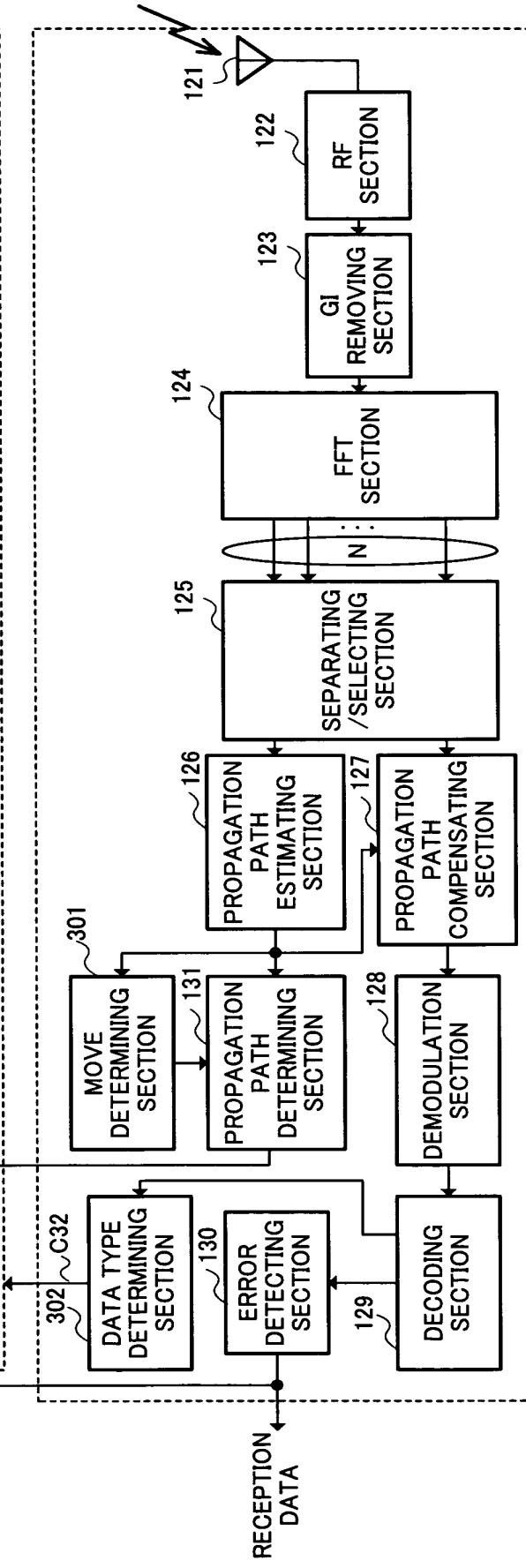
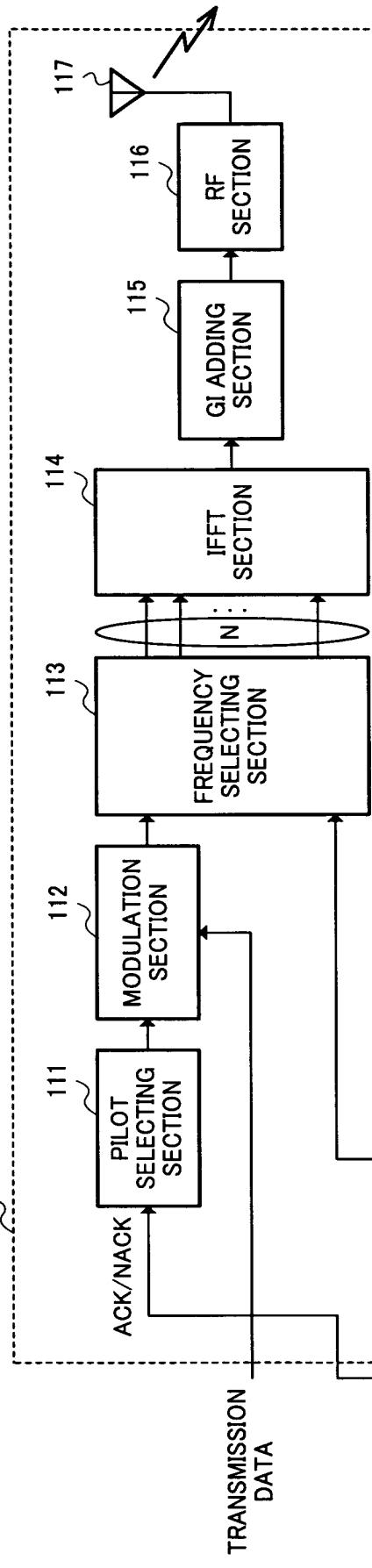
	SUBBAND NUMBER OF THE FIRST PRIORITY	SUBBAND NUMBER OF THE SECOND PRIORITY	SUBBAND NUMBER OF THE THIRD PRIORITY
PRIORITY INFORMATION OF USER #1	5	X	—3
PRIORITY INFORMATION OF USER #2	7	—2	4
PRIORITY INFORMATION OF USER #3	X	6	—4

○ SELECTED SUBBAND  
X UNAVAILABLE SUBBAND NUMBER DUE  
TO BEING SECURED BY ANOTHER USER  
— UNNECESSARY SUBBAND NUMBER SINCE  
THE SUBBAND WITH A HIGHER PRIORITY HAS  
BEEN SELECTED

FIG.20

## 300 MOBILE STATION APPARATUS

## 110 TRANSMITTING SECTION



320 RECEIVING SECTION

FIG.21

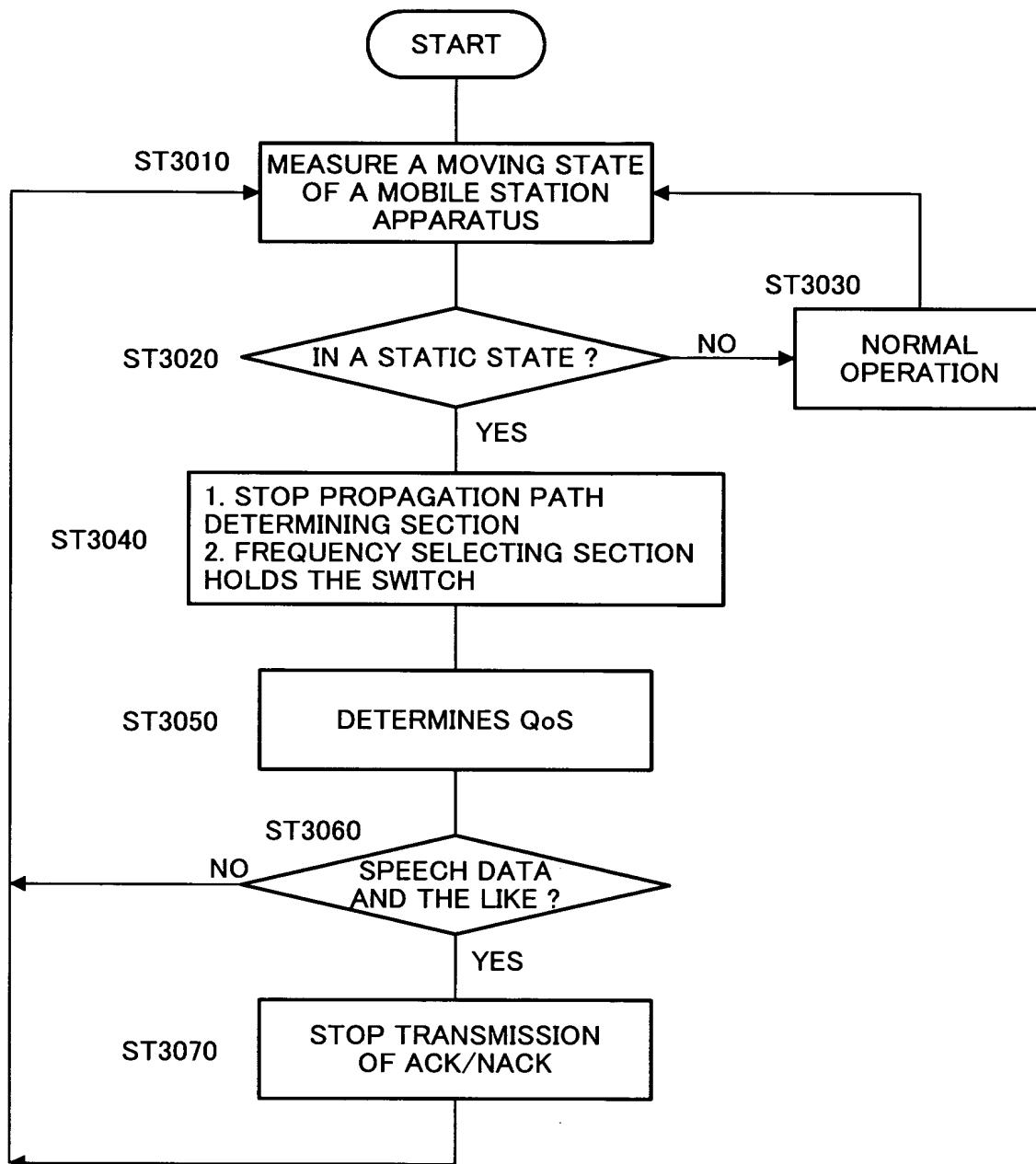


FIG.22

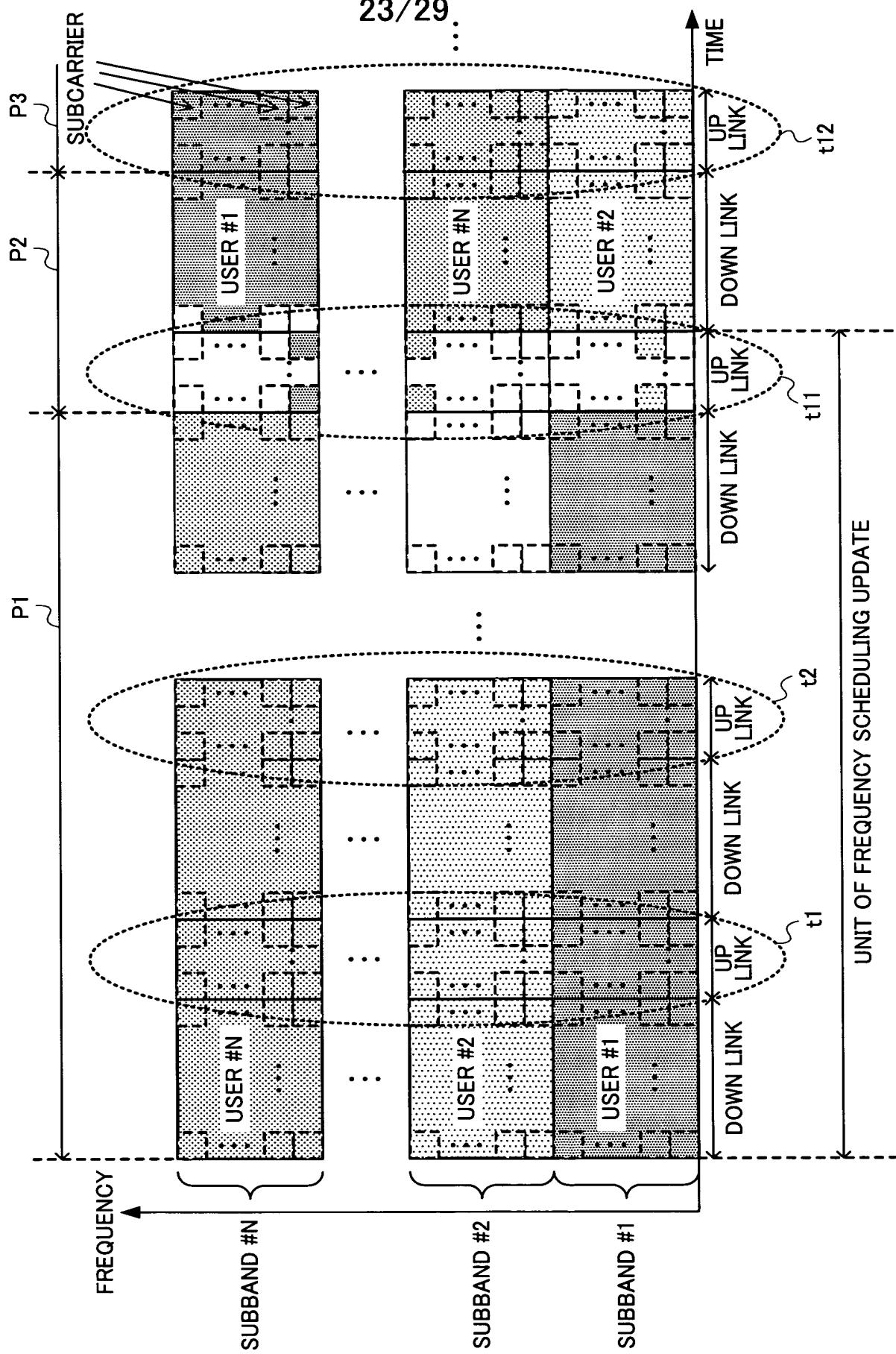


FIG.23

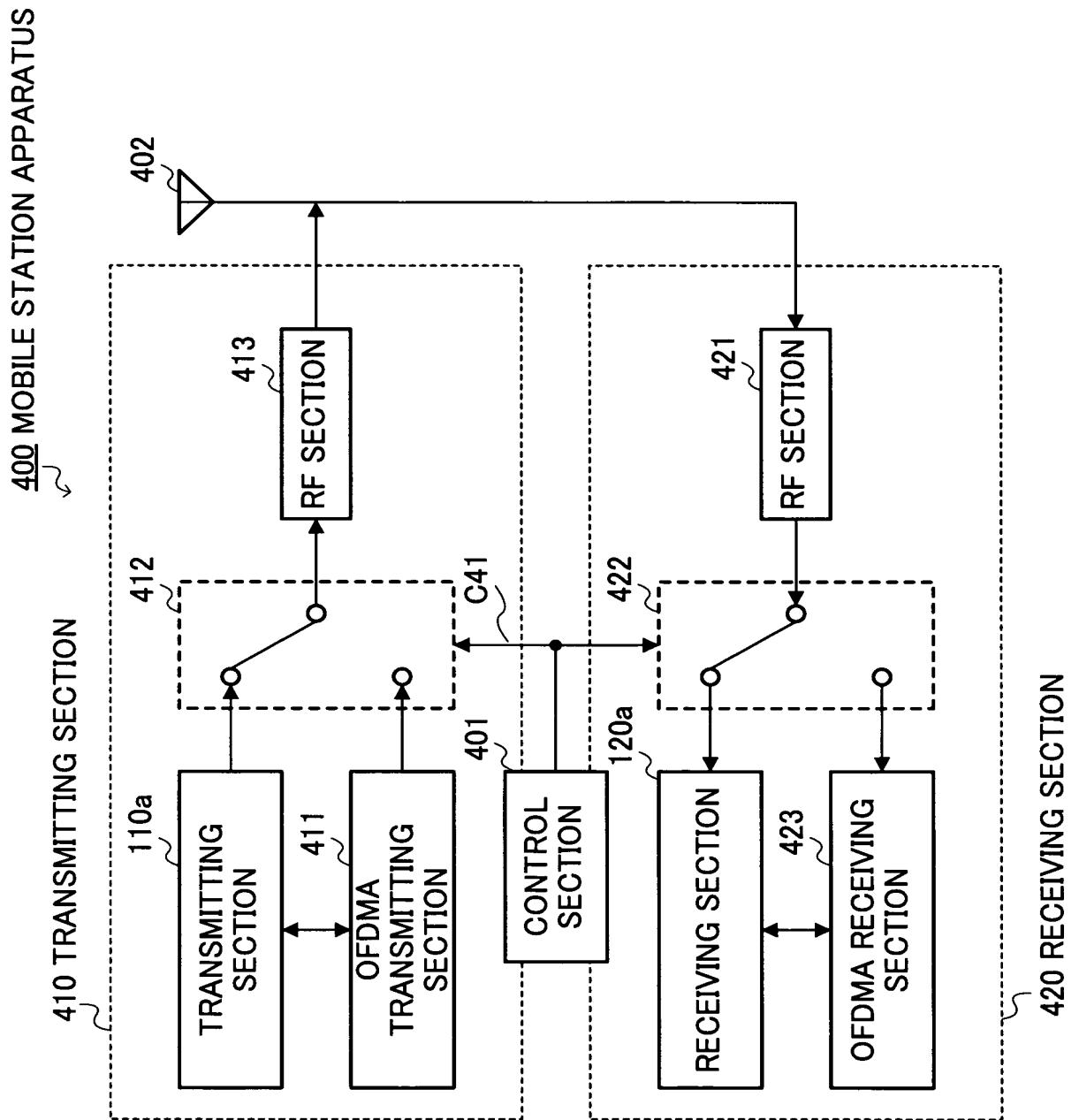


FIG.24

450 BASE STATION APPARATUS

460 TRANSMITTING SECTION

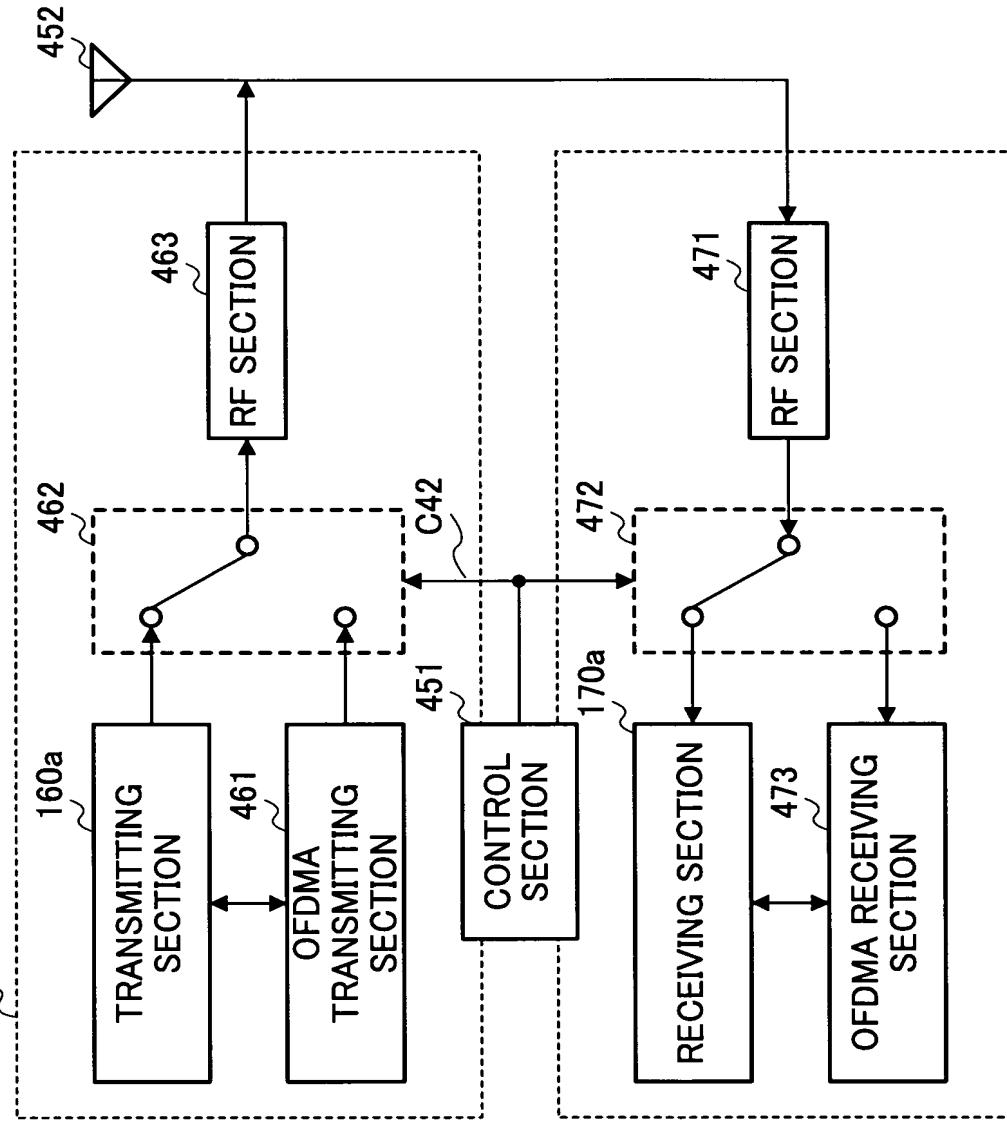


FIG.25

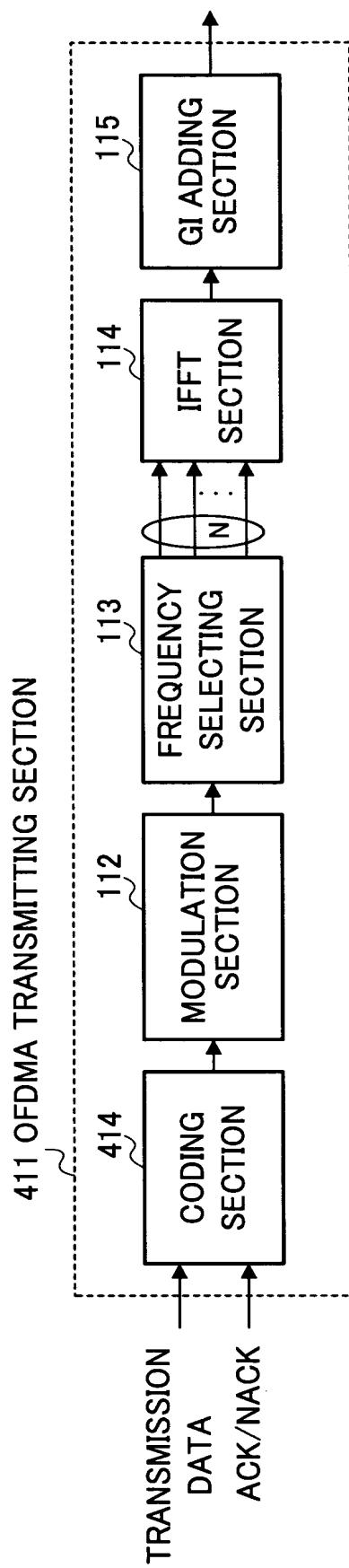


FIG.26

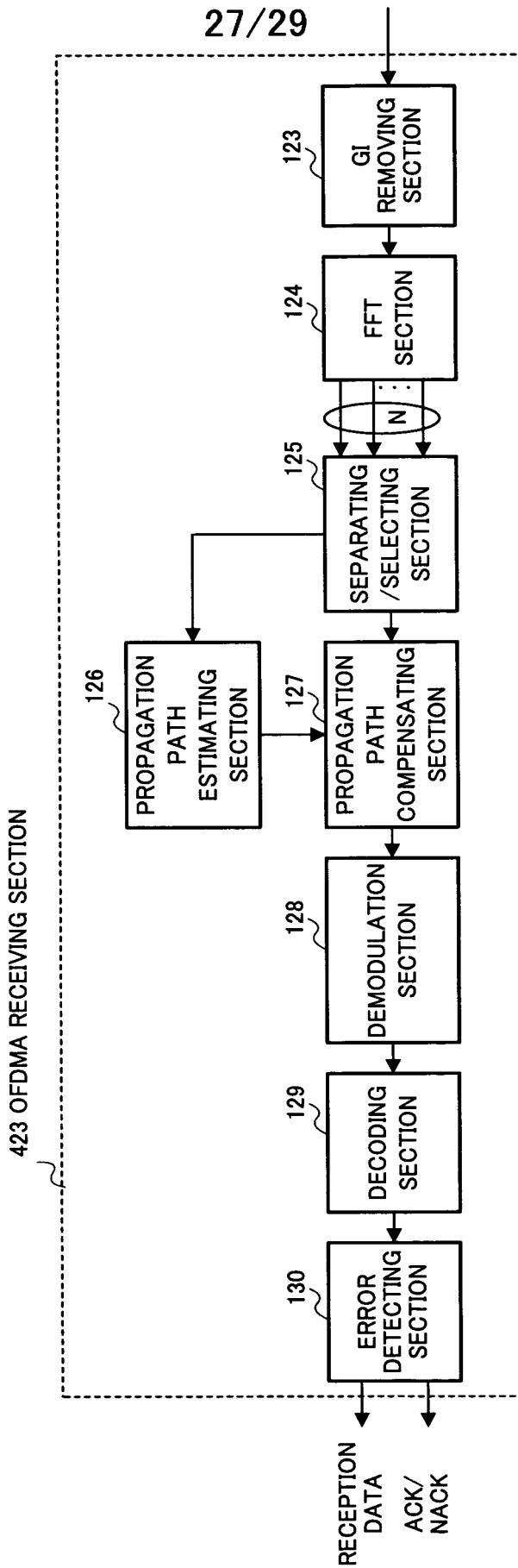
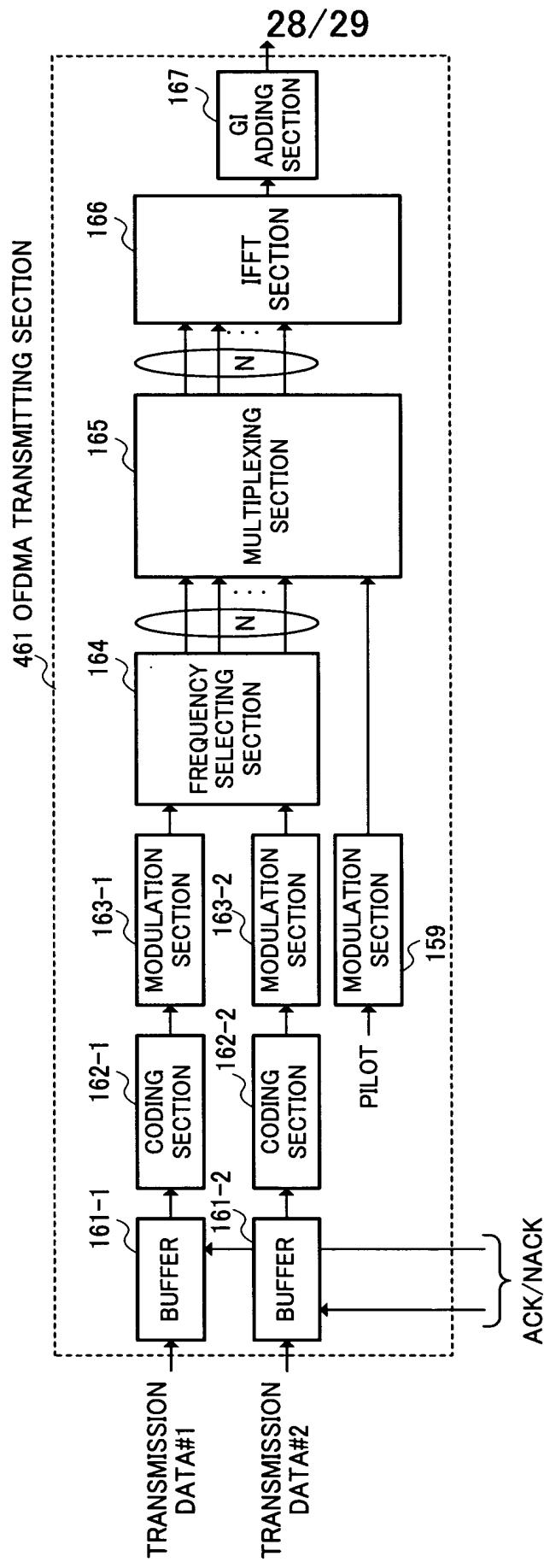


FIG.27

FIG.28



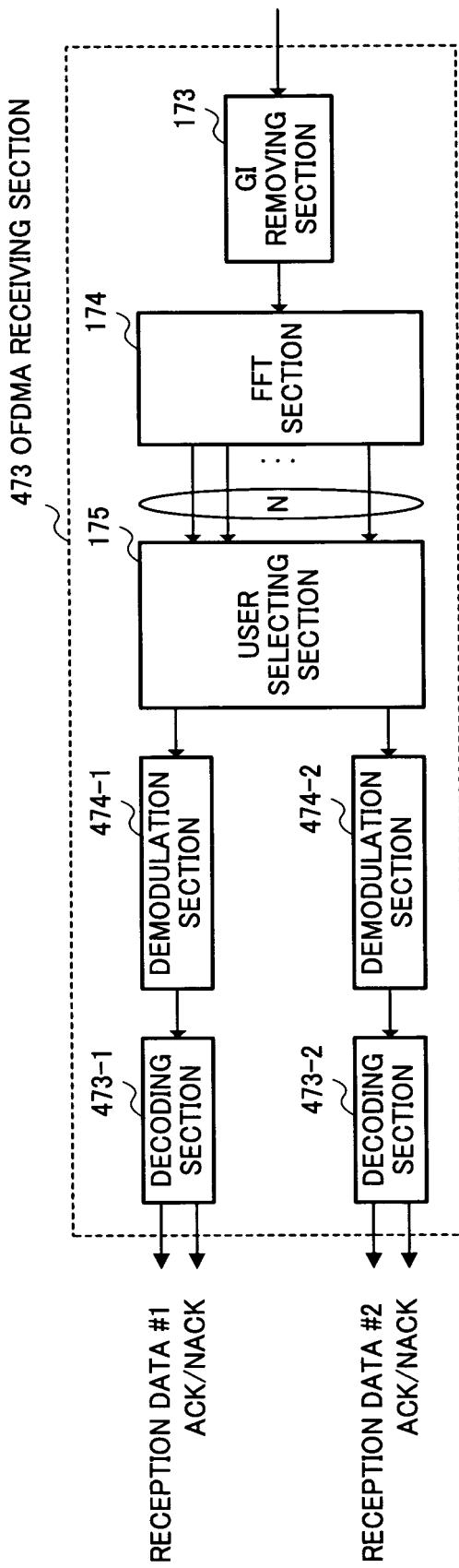


FIG.29